

**NCDOT Prestress Standard Repair Procedure for Non-Conformance Report (NCR)
SRP-08: Shrinkage Cracks– 04/05/2022**

Structures Management Unit Review Comments

The NCDOT Structures Management Unit recommends that the following standard procedure be followed for all girders, cored slabs, and box beams in which shrinkage cracks have been observed:

- For crack widths less than .020", no action required.
- For crack widths equal to or greater than .020", repair the crack areas by gravity filling the cracks with a Low-Viscosity two-part epoxy adhesive suitable for gravity fed applications. The repair material shall be on the NCDOT Approved Products List.
(<https://apps.ncdot.gov/vendor/approvedproducts/Default.aspx>)
- The procedure shall be performed in the presence of and to the satisfaction of the NCDOT on-site inspector.

Repair of Shrinkage Cracks Utilizing Gravity Fed Epoxy Procedure

1. Surface Preparation
 - 1.1. Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, and any other contaminants.
 - 1.2. Preparation Work: Concrete - Should be cleaned and prepared thoroughly to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means.
2. Mixing
 - 2.1. Follow manufacturer's directions for proper mixing according to the manufacturer's data sheet.
3. Application
 - 3.1. Blow surface of crack clean with oil-free compressed air. Pour epoxy adhesive into cracks slightly overfilling the crack with epoxy. Continue placement as needed until the crack is completely or slightly over filled. Seal underside of slab prior to filling if cracks reflect through.
 - 3.2. Once the crack has been sufficiently filled and the epoxy has not yet started to harden apply a coating of oven-dried sand to give the repair area a textured surface and enhance bonding with subsequent surface treatments.
 - 3.3. Once the repair area has cured remove excess sand and any epoxy leakage on the underside/sides of the member.

There shall be an NCR written and saved in the project file for future reference. The NCR will not be required to be submitted to SMU providing that the procedures outlined above are strictly followed.

If for any reason the above requirements cannot be met an NCR submittal will be required for review.

If you have any questions or comments, please contact James L. Bolden, Jr., PE at (919)707-6408, (jlbolden@ncdot.gov) or Madonna Rorie, PE at (919)707-6508 (mrorie@ncdot.gov).

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